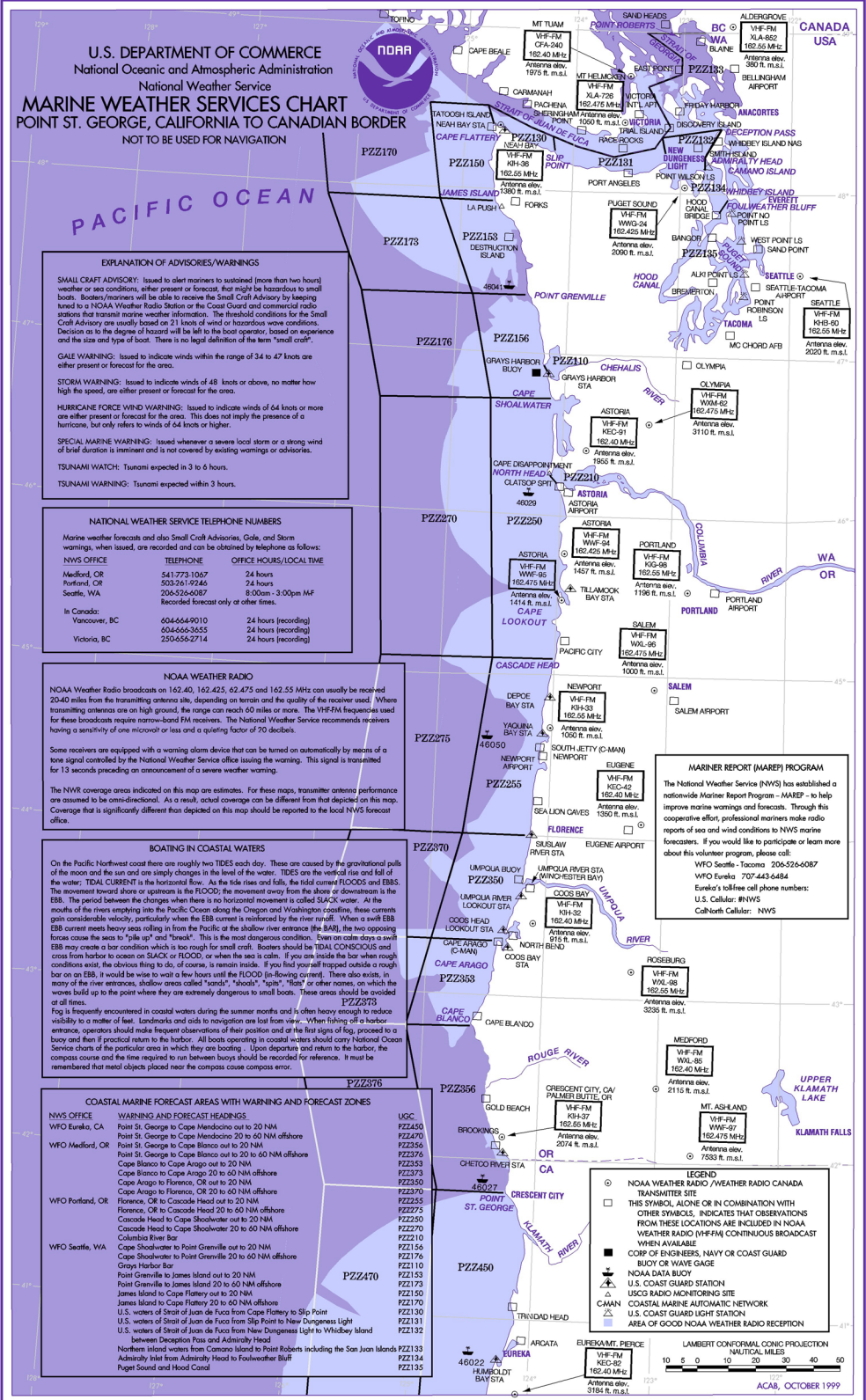


MSC-10—POINT ST. GEORGE, CA TO CANADIAN BORDER

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U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Weather Service
MARINE WEATHER SERVICES CHART
POINT ST. GEORGE, CALIFORNIA TO CANADIAN BORDER
NOT TO BE USED FOR NAVIGATION

EXPLANATION OF ADVISORIES/WARNINGS

SMALL CRAFT ADVISORY: Issued to alert mariners to sustained (more than two hours) weather or sea conditions, either present or forecast, that might be hazardous to small boats. Boaters/mariners will be able to receive the Small Craft Advisory by keeping tuned to a NOAA Weather Radio Station or the Coast Guard and commercial radio stations that transmit marine weather information. The threshold conditions for the Small Craft Advisory are usually based on 21 knots of wind or hazardous wave conditions. Decision as to the degree of hazard will be left to the boat operator, based on experience and the size and type of boat. There is no legal definition of the term "small craft".

GALE WARNING: Issued to indicate winds within the range of 34 to 47 knots are either present or forecast for the area.

STORM WARNING: Issued to indicate winds of 48 knots or above, no matter how high the speed, are either present or forecast for the area.

HURRICANE FORCE WIND WARNING: Issued to indicate winds of 64 knots or more are either present or forecast for the area. This does not imply the presence of a hurricane, but only refers to winds of 64 knots or higher.

SPECIAL MARINE WARNING: Issued whenever a severe local storm or a strong wind of brief duration is imminent and is not covered by existing warnings or advisories.

TSUNAMI WATCH: Tsunami expected in 3 to 6 hours.

TSUNAMI WARNING: Tsunami expected within 3 hours.

NATIONAL WEATHER SERVICE TELEPHONE NUMBERS

Marine weather forecasts and also Small Craft Advisories, Gale, and Storm warnings, when issued, are recorded and can be obtained by telephone as follows:

NWS OFFICE	TELEPHONE	OFFICE HOURS/LOCAL TIME
Medford, OR	541-773-1057	24 hours
Portland, OR	503-251-9244	24 hours
Seattle, WA	206-526-6087	8:00am - 3:00pm M-F
Recorded forecast only or other times.		
In Canada:		
Vancouver, BC	604-664-9010	24 hours (recording)
Victoria, BC	604-666-3555	24 hours (recording)
	250-656-2714	24 hours (recording)

NOAA WEATHER RADIO

NOAA Weather Radio broadcasts on 162.40, 162.425, 62.475 and 162.55 MHz can usually be received 20-40 miles from the transmitting antenna site, depending on terrain and the quality of the receiver used. Where transmitting antennas are on high ground, the range can reach 60 miles or more. The VHF-FM frequencies used for these broadcasts require narrow-band FM receivers. The National Weather Service recommends receivers having a sensitivity of one microvolt or less and a quieting factor of 20 decibels.

Some receivers are equipped with a warning alarm device that can be turned on automatically by means of a tone signal controlled by the National Weather Service office issuing the warning. This signal is transmitted for 13 seconds preceding an announcement of a severe weather warning.

The NWR coverage areas indicated on this map are estimates. For these maps, transmitter antenna performance are assumed to be omni-directional. As a result, actual coverage can be different from that depicted on this map. Coverage that is significantly different than depicted on this map should be reported to the local NWS forecast office.

BOATING IN COASTAL WATERS

On the Pacific Northwest coast there are roughly two tides each day. These are caused by the gravitational pulls of the moon and the sun and are simply changes in the level of the water. TIDES are the vertical rise and fall of the water. TIDAL CURRENT is the horizontal flow. As the tide rises and falls, the tidal current FLOODS and EBBs. The movement toward shore or up-stream is the FLOOD; the movement away from the shore or down-stream is the EBB. The period between the changes when there is no horizontal movement is called SLACK water. At the mouth of the rivers emptying into the Pacific Ocean along the Oregon and Washington coastline, these currents gain considerable velocity, particularly when the EBB current is reinforced by the river runoff. When a swift EBB EBB current meets heavy seas rolling in from the Pacific or the river entrance (the BAR), the two opposing forces cause the seas to "pile up" and "break". This is the most dangerous condition. Even on calm days a swift EBB may create a bar condition which is too rough for small craft. Boaters should be TIDAL CONSCIOUS and cross from harbor to ocean on SLACK or FLOOD, or when the sea is calm. If you are inside the bar when rough conditions exist, the obvious thing to do is remain inside. If you find you will be trapped outside a rough bar on an EBB, it would be wise to wait a few hours until the FLOOD (in-flowing current). There also exists, in many of the river entrances, shallow areas called "hanks", "holes", "spots", "bars" or other names, on which the waves build up to the point where they are extremely dangerous to small boats. These areas should be avoided at all times.

Fog is frequently encountered in coastal waters during the summer months and is often heavy enough to reduce visibility to a matter of feet. Landmarks and aids to navigation are lost from view. When lifting off of harbor entrance, operators should make frequent observations of their positions and at the first signs of fog, proceed to a buoy and then if practical return to the harbor. All boats operating in coastal waters should carry National Ocean Service charts of the particular area in which they are boating. Upon departure and return to the harbor, the compass course and the time required to run between buoys should be recorded for reference. It must be remembered that metal objects placed near the compass cause compass error.

COASTAL MARINE FORECAST AREAS WITH WARNING AND FORECAST ZONES

NWS OFFICE	WARNING AND FORECAST HEADINGS	UGC
WFO Eureka, CA	Point St. George to Cape Mendocino out to 20 NM	PZZ2450
	Point St. George to Cape Mendocino 20 to 60 NM offshore	PZZ2470
WFO Medford, OR	Point St. George to Cape Blanco out to 20 NM	PZZ2356
	Point St. George to Cape Blanco out to 20 to 60 NM offshore	PZZ2376
	Cape Blanco to Cape Arago out to 20 NM	PZZ2355
	Cape Arago to Cape Arago 20 to 60 NM offshore	PZZ2373
	Cape Arago to Florence, OR out to 20 NM	PZZ2350
	Cape Arago to Florence, OR 20 to 60 NM offshore	PZZ2370
	Florence, OR to Cascade Head out to 20 NM	PZZ2255
	Florence, OR to Cascade Head 20 to 60 NM offshore	PZZ2275
	Cascade Head to Cape Shoalwater out to 20 NM	PZZ2250
	Cascade Head to Cape Shoalwater 20 to 60 NM offshore	PZZ2270
WFO Portland, OR	Columbia River Bar	PZZ2110
	Cape Shoalwater to Point Grenville out to 20 NM	PZZ1156
	Cape Shoalwater to Point Grenville 20 to 60 NM offshore	PZZ1176
	Grays Harbor Bar	PZZ1110
	Point Grenville to James Island out to 20 NM	PZZ1154
	Point Grenville to James Island 20 to 60 NM offshore	PZZ1174
	James Island to Cape Flattery out to 20 NM	PZZ1250
	James Island to Cape Flattery 20 to 60 NM offshore	PZZ1270
	U.S. waters of Strait of Juan de Fuca from Cape Flattery to Slip Point	PZZ1230
	U.S. waters of Strait of Juan de Fuca from New Dungeness Light to Whiskey Island between Deception Pass and Admiralty Head	PZZ1231
	Northern Inland waters from Camano Island to Point Roberts including the San Juan Islands	PZZ1233
	Admiralty Inlet from Admiralty Head to Foulweather Bluff	PZZ1234
	Puget Sound and Hood Canal	PZZ1235

STATION	FREQUENCY	ANTENNA ELEVATION (M.S.L.)
MT TUMAC	VHF-FM OFA-240 162.40 MHz	1975 m.s.l.
MT HELMUSON	VHF-FM KLA-726 162.475 MHz	1020 m.s.l.
MT BURGENESS	VHF-FM HNS-56 162.55 MHz	Antenna elev. 182.65 m.s.l.
MT SLOTT	VHF-FM HNS-56 162.55 MHz	Antenna elev. 182.65 m.s.l.
MT PORT ANGELES	VHF-FM WNG-54 162.40 MHz	2000 m.s.l.
MT ASTORIA	VHF-FM WNF-54 162.425 MHz	Antenna elev. 1955 m.s.l.
MT ASTORIA	VHF-FM WNF-54 162.425 MHz	Antenna elev. 1457 m.s.l.
MT TILLAMOOK	VHF-FM WNF-54 162.55 MHz	1198 m.s.l.
MT SALEM	VHF-FM WNL-56 162.475 MHz	1000 m.s.l.
MT NEWPORT	VHF-FM WNF-54 162.55 MHz	1000 m.s.l.
MT SOUTH JETTY (C-MAN)	VHF-FM WNF-54 162.40 MHz	Antenna elev. 1350 m.s.l.
MT FLORENCE	VHF-FM WNF-54 162.40 MHz	Antenna elev. 1350 m.s.l.
MT UMPQUA RIVER STA (WIND-ESTER BAY STA)	VHF-FM WNF-54 162.40 MHz	Antenna elev. 1000 m.s.l.
MT COOS BAY	VHF-FM WNF-54 162.40 MHz	Antenna elev. 1000 m.s.l.
MT ROSEBURG	VHF-FM WNL-56 162.55 MHz	Antenna elev. 3238 m.s.l.
MT MEDFORD	VHF-FM WNL-56 162.40 MHz	Antenna elev. 2115 m.s.l.
MT ASHLAND	VHF-FM WNF-57 162.475 MHz	Antenna elev. 7533 m.s.l.
MT EUREKA	VHF-FM WNF-54 162.40 MHz	Antenna elev. 2184 m.s.l.

LEGEND

- NOAA WEATHER RADIO (WEATHER RADIO CANADA)
- TRANSMITTER SITE
- THIS SYMBOL, ALONE OR IN COMBINATION WITH OTHER SYMBOLS, INDICATES THAT OBSERVATIONS FROM THESE LOCATIONS ARE INCLUDED IN NOAA WEATHER RADIO (NWR/FM) CONTINUOUS BROADCAST WHEN AVAILABLE
- CORP OF ENGINEERS, NAVY OR COAST GUARD BUOY OR WAIVE GAGE
- NOAA DATA BUOY
- U.S. COAST GUARD STATION
- USCG RADIO MONITORING SITE
- COASTAL MARINE AUTOMATIC NETWORK
- U.S. COAST GUARD LIGHT STATION
- AREA OF GOOD NOAA WEATHER RADIO RECEPTION

LAMBERT CONFORMAL CONIC PROJECTION
NAUTICAL MILES
10 5 0 5 10 20 30 40 50

ACAB, OCTOBER 1999

USCOMMANOANDCA5741 DISCREPANCY REPORTS SOLICITED Mail to: National Weather Service (WV, OMI), 1225 East H Street, in Room 1412-26, Silver Spring, MD 20910
NOAAFA-9906D any other comments are appreciated and will be used in preparing the next edition.

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